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Homeland Security Information Bulletin No. 06 - 12

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2006 Homeland Security Funding for

Geographic Information Systems (GIS)

Purpose

This bulletin is to provide guidance on Office of Justice Assistance (OJA) policies for funding specialized equipment to Geographic Information Systems (GIS) and specific EOC software initiatives.

Eligible Applicants

The only agency eligible to apply for this grant is Wisconsin Emergency Management (\$300,000)

Grant Period

Funding under this program will be available for the period specified on the grant award. Funds may not be committed by subgrantees until a grant award is issued that is free of special conditions. All final reports, forms, and invoices must be submitted within 60 days of the close of the grant period.

Extensions may be granted in rare and exceptional cases, i.e. when subgrantees are experiencing long procurement delays or items are on back order, etc. Extensions may be requested by email. Please reference the grant program in the subject and the grant number in the text of the email. The email must also include a justification for the extension.

Key Dates for the GIS Grant:

Application Open	Application Due
November 17, 2006	January 15, 2007

Eligible Expenses

Projects involving the implementation of Geospatial Information Systems should follow the FY06 HSGP Federal Geospatial Guidance outlined in Appendix A of this bulletin.

Equipment grant funds may be used for equipment acquisition in the FY06 Office of Domestic Preparedness (ODP) Authorized Equipment List (AEL) and planning/consulting. The FY06 AEL is available in its entirety online through the **Responder's Knowledge Base (RKB)** at <http://www.rkb.mipt.org> and the equipment categories are outlined in Appendix A.

Shipping, installation, maintenance, training, programming and other authorized equipment are all eligible expenses under AEL category 21 "Other Authorized Equipment". When reporting please separate category 21 costs from other equipment.

Equipment requests should be consistent with the State of Wisconsin FY06 GIS Investment Justification. Purchases must be appropriate for the discipline and jurisdiction, based on need, and fit within the jurisdiction's preparedness plan as well as the State Homeland Security Strategy.

Federal funds under this award can only be used to *supplement*, not *supplant* state or local funds. (Supplanting is the replacement of state or local funds with Federal funds). Therefore, equipment purchases or administrative/personnel costs previously planned in the agency's budget may not be included in this program. Costs of current employees cannot be covered.

Equipment Restrictions

Grant funds awarded under this program **may not** be used for the following:

- ✓ General-use computers and software, except as allowed under M&A costs
- ✓ General-use vehicles
- ✓ Licensing fees
- ✓ Weapon systems & Ammunition
- ✓ Construction or renovation, except when it is a necessary component of a security system
- ✓ Hiring of public safety personnel for the purposes of fulfilling traditional public safety duties
- ✓ Equipment or activities unrelated to the implementation of the grant program and the State Homeland Security Strategy
- ✓ Items not in accordance with the Authorized Equipment List
- ✓ Items otherwise budgeted for with local funds

Medical supplies and pharmaceuticals with expiration dates may only be requested with an appropriate rotation plan in place with local hospitals or medical facilities. This written plan must be filed with OJA.

All equipment purchased under this grant must be made available to other emergency response agencies statewide, as may be required for incident response purposes. Grant funds may be used to contract/pay for maintenance costs.

Any regular maintenance and/or calibration required to ensure the accuracy and dependability of the requested equipment must be coordinated in accordance with the manufacturer's recommendations and specifications.

Equipment Training

Equipment must be of a type that the requesting agency is trained on, or will be trained on upon receipt of the equipment. The standards identified under 29 CFR 1910.120 apply, as applicable.

If you are requesting explosive device mitigation equipment, Level A or Level B Haz-Mat PPE, an AED, or other equipment requiring a certification level of training, **you must** verify the current or future training level of disciplines and agencies receiving that equipment. Equipment may not be deployed prior to completion of training.

If you are requesting Level C PPE tight-fitting full face-piece respirators, you must include an assurance that all personnel using the equipment will receive initial and annual fit tests and be compliant with 29 CFR part 1910.134, Respiratory Protection as directed by Wisconsin Department of Commerce.

In the online application, these requirements are met by checking the appropriate verification box that appears when the equipment is selected.

Training Requirements

All personnel who utilize equipment purchased with this grant must receive training either through the vendor or other competent source specific to that piece of equipment.

Property Disposal or Transfer

Equipment purchased under this grant must be disposed of by following the disposal process currently in practice for each community. OJA must be notified of property disposal or transfer or ownership.

Sustainment Costs

Funds may be used for sustainment of first responder equipment that would be used in a jurisdictions' response to a threat or event. This includes repair and replacement parts, equipment warranties and maintenance contracts for purchases made under this and any previous ODP grants. Applicants who choose to include sustainment costs should list the expenses and identified item at the end of the equipment request worksheet. Sustainment can include costs to provide services for the life expectancy of the equipment.

Planning/Training Costs

Planning grants may be used for the following activities:

- Hiring of full or part-time staff or contractors/consultants
- Conferences, meetings, and workshops
- Materials and supplies required to conduct planning activities
- Travel/per diem related to planning activities

Application Procedures

- Please go to our web site <http://oja.wi.gov> and follow the links to start the application process. Applicants will use Egrants to apply for funding. Detailed instructions on how to use Egrants are on the website in the document "Homeland Security Application Guide" and found at: <http://oja.state.wi.us/docview.asp?docid=9857&locid=97>
- Completed applications must be submitted before the due date.
- After applications are reviewed, all applicants will receive e-mail notification by the award date whether or not your application has been approved.
- If help is needed with Egrants, contact OJAEgrantsSupport@Wisconsin.gov which is monitored from 7:45 AM until 4:30 PM, Monday through Friday. In addition calls can be made to 608-266-8405.

Application Review

Grants will be reviewed internally by OJA to ensure that all federal and state requirements are met, that equipment requests are appropriate, directly relate to terrorism prevention, response, or recovery and relate to the State Homeland Security Strategy. Applications submitted on or before the due date will be reviewed promptly.

Changes to Applications

All changes to applications, including application budgets, must receive prior approval from OJA. Submission of invoices that have not received this prior approval may result in delay or denial of payment. Changes to applications must be made by contacting the Program Contact listed on the grant application.

Grant payments, Reporting and Reconciling Grant Applications

All grant funds are dispersed on a reimbursement basis upon submission of invoices and along with appropriate reporting forms. The grantee is responsible for making vendor payments and payments to sub-recipients.

Grant Application – please reference the line item numbers on the invoices from the Grant Application. Invoices need to be matched against the equipment that was applied for. Putting the line item number helps expedite payment. For example, if 4 radios were purchased @ \$250.00 for \$1,000.00 under line 1 on the Grant Application Form, then please notate line 1 on the invoice. If they were initially purchased on a PO and were reflected as 4 radios @\$200.00 each for \$800.00, and then the invoice came in for \$1,000.00, you are going to have to modify your original application so that you can reflect the invoice price. The total of all invoices will have to equal the total of the Application. If the invoices exceed the award amount, OJA will only reimburse up to the award amount.

G-4 & G-5 –If making final payment request please submit the closeout documents (G-4, G-5, invoices and modify original grant application before submitting it for payment. The final grant application total (amount requested) has to equal the total amount of all invoices. Please also reference the line item number for each one of the categories on the G-5 from the grant application. Please note: to ensure any unexpended funds can be reallocated, it is highly recommended that grantees submit all close out documents as much in advance of the 60 day end date as possible.

Requests for Extensions

Extensions may be granted in exceptional cases, i.e. when sub grantees are experiencing long procurement delays or items are on back order, etc. Extensions may be requested by emailing the program contact.

If equipment is anticipated to be backordered beyond the grant end date, please contact our office to request an extension to the grant period.

Compliance Review

The Office of Justice Assistance will conduct site visits to grantees during the grant period. At that time, all records, purchase orders, granted equipment, accounting documents, certifications, training records and agreements are subject to review. This includes both the primary grantee and the recipients of any equipment, as conducted by the grantee. This site visit does not replace the A-133 single audit requirement.

Contact information:

Office of Justice Assistance Phone: 608-266-3323

OJAHomelandSecurity@wisconsin.gov.

Appendix A: Federal FFY06 Geospatial Guidance (Adapted from the FY06 HSGP Program Guidance and Application Kit)

DHS maintains a Geospatial Profile of the Homeland Security Enterprise Architecture and is working towards a National Strategy for a Homeland Security Geospatial Infrastructure. The purpose of these efforts are to help guide geospatial data and technology investments for building a standardized national model that will promote geospatial collaboration and interoperability among Homeland Security participants.

Grantees are recommended to review the guidance provided below. This will ensure that grantees have applied due diligence in reviewing and assessing requirements for their objectives that involve geospatial components.

A. Considerations

The following considerations should be made when developing a geospatial program:

Coordination and Strategic Planning Considerations

- Does the State have a homeland security geospatial strategy or, at a minimum, address how geospatial data and technologies can support the State Homeland Security Strategy? Examples of strategies with geospatial content can be found on RKB, <http://www.rkb.mipt.org>.
- Has the State/jurisdiction identified homeland security geospatial requirements?
- Does the State have a geospatial coordination council that interfaces and coordinates with private, academic, military, and Tribal communities, and government agencies on homeland security geospatial information issues?
- Does the State/jurisdiction place an emphasis on making data readily available to other local jurisdictions, within their States, and with Federal agencies? Does the State/jurisdiction have data sharing agreements in place to support the homeland security mission? Does the State/jurisdiction include parcel information in these data sharing agreements?

Operational Considerations

- Does the State maintain a current inventory of geospatial assets (equipment, personnel, databases, services, metadata, systems, and documentation)?
- Does the State have homeland security geospatial data stored in more than one location and readily accessible to responders and to emergency operations centers?
- Does the State have access to a team of established geospatial personnel that can provide 24/7 expertise and equipment for emergencies?
- Does the State incorporate the use of geospatial applications into standard operating procedures for homeland security mission areas?
- Does the State have education and training programs for the use of geospatial applications in homeland security missions?

Compliance with Standards / Use of Best Practices Considerations

- Does the State promote interoperability and efficient use of the geospatial data and services by complying with Federally-adopted geospatial standards, specifications, and guidelines such as those published by the Federal Geographic Data Committee (FGDC), the Open Geospatial Consortium (OGC™), the American National Standards Institute (ANSI), and the International Standards Organization (ISO)?
- Does the State register and/or publish the geospatial resources that are planned or result from programs or projects as a means to avoid expenditures of time, effort, and funds on redundant acquisitions?
- Does the State implement efficient geospatial metadata management capability following international and Federal Geographic Data Committee standards?
- Does the State/jurisdiction provide their geospatially related lessons learned via the

B. Recommended Content

Minimum Essential Data Sets (MEDS)

Federal, State, local, and Tribal governments worked together to create Minimum Essential Data Sets (MEDS) over urbanized areas as part of the Nunn-Lugar-Domenici 120-city effort, and for national critical infrastructure to fulfill the Joint Forces Command Common Relevant Operating Picture. Both sets of MEDS provide the geospatial foundation necessary for the Homeland Security Community to carry out the key national homeland security strategy objectives, as outlined by the White House on 16 July 2002 – (1) preventing terrorist attacks within the United States; (2) reducing the Nation's vulnerability to terrorism; and (3) minimizing damage, while speeding recovery from natural or terrorist-caused disasters.

The Information Content Subgroup of the FGDC Homeland Security Working Group (HSWG) developed Guidelines for Homeland Security Infrastructure Protection Geospatial Data Content in October, 2005. This guidance is based on previous work done by members of the FGDC HSWG. The HSWG has improved the data content by: 1) refining feature and attribute requirements based on input from homeland security sector experts; 2) revising features, feature classes and definitions to correspond more closely with infrastructure data requirements of the DHS; and 3) indicating general priorities for feature and attribute collection. At the time of this publication, the geospatial content guidance is For Official Use Only (FOUO) and can be obtained by sending a request to the DHS Geospatial Management Office at gmo@dhs.gov. The e-mail should contain the requestor's name, organization, and description of need for this document.

Data Quality

Two types of geographic areas are of special interest. For Urban Areas, the data should have the currency and positional accuracy qualities typically sought by local governments. For large areas (for example, States or groups of States), the data should have the positional accuracy qualities of USGS primary topographic map series (typically 1:24,000-scale; 1:63,360-scale in Alaska). Table 22 provides minimum goals for these two classes of data.

Table 22 – Minimum (“no worse than”) Goals for Resolution, Accuracy, and Currency

Data Theme	Urban Areas		Large Areas	
	Minimum Resolution or Accuracy ¹⁷	Minimum Currency ¹⁸	Minimum Resolution or Accuracy ¹⁹	Minimum Currency
Orthoimagery	1 foot resolution; 3 meters horizontal accuracy	Two years	1 meter resolution; 11.70 meters horizontal accuracy	Five years
Elevation	1/9 arcsecond (~3 meters) resolution; 0.73 meter vertical accuracy	Two years	1/3 arcsecond (~10 meters) (2 arcsecond in Alaska) resolution; vertical accuracy commensurate with contour interval of USGS primary topographic map for area	Five years
Hydrography	4.68 meters horizontal accuracy	Two years	13.90 meters horizontal accuracy; 36.69 meters horizontal accuracy for Alaska	Five years
Transportation	4.68 meters horizontal accuracy	Two years	13.90 meters horizontal accuracy; 36.69 meters horizontal accuracy for Alaska	Five years
Boundaries	4.68 meters horizontal accuracy	Two years	13.90 meters horizontal accuracy; 36.69 meters horizontal accuracy for Alaska	Five years
Structures	4.68 meters horizontal accuracy	Two years	13.90 meters horizontal accuracy; 36.69 meters horizontal accuracy for Alaska	Five years
Land Cover	Should align with base maps that have the accuracies listed above.	Two years	Should align with base maps that have the accuracies listed above.	Five years
Geographic Names	Same as the associated feature		Same as the associated feature	

17,4 Accuracy statement based on Geospatial Positioning Accuracy Standard, Part 3, National Standard for Spatial Data Accuracy (FGDC-STD-007.3-1998). http://www.fgdc.gov/standards/status/sub1_3.html. For horizontal accuracies (95% confidence level), 3 meters is commensurate with 1:3,075-scale maps under the National Map Accuracy Standard, 4.68 meters with 1:4,800-scale maps, 13.90 meters with 1:24,000-scale maps, and 36.69 meters with 1:63,360-scale maps. For vertical accuracy (95% confidence level), 0.73 meter is commensurate with a fourfoot contour interval under the National Map Accuracy Standard.

18,5 Estimated currency of the data at the date of service initiation; that is, the data served reflects the groundcondition sometime during the two (or five) years prior to the start of service through *The National Map*. (Note that, for themes in which the ground changes rarely, older data might meet this condition.)

19 Data should be in the North American Datum of 1983; elevation data in the North American Vertical Datum of 1988.

C. Relevant Organizations and Initiatives

The following describes important organizations and those Federally-maintained, endorsed or adopted initiatives that grantees are strongly recommended to review:

Federal Geographic Data Committee (www.fgdc.gov)

The FGDC is a 19-member interagency committee composed of representatives from the Executive Office of the President, Cabinet-level and independent agencies. The FGDC is developing NSDI in cooperation with organizations from State, local and Tribal governments, the academic community, and the private sector. NSDI encompasses policies, standards, and procedures for organizations to cooperatively produce and share geographic data.

FGDC Metadata (www.fgdc.gov/metadata/metadata.html)

Metadata or "data about data" describe the content, quality, condition, and other characteristics of data. FGDC approved the Content Standard for Digital Geospatial Metadata (FGDC-STD-001-1998) in June 1998.

FGDC Standards (www.fgdc.gov/standards/standards.html)

Standards facilitate the development, sharing, and use of geospatial data. The FGDC develops geospatial data standards for implementing the NSDI, in consultation and cooperation with State, local, and Tribal governments, the private sector and academic community, and, to the extent feasible, the international community.

FGDC Framework (www.fgdc.gov/framework/framework.html)

GIS applications of many different disciplines have a recurring need for a few themes of data. The framework is a collaborative community based effort in which these commonly needed data themes are developed, maintained, and integrated by public and private organizations within a geographic area. Local, regional, State and Federal government organizations and private companies see the framework as a way to share resources, improve communications, and increase efficiency.

Open Geospatial Consortium (www.opengeospatial.org)

The Open Geospatial Consortium, Inc. (OGC™) is a nonprofit, international, voluntary consensus standards organization that is leading the development of standards for geospatial and location based services. Through member-driven consensus programs, OGC works with government, private industry, and academia to create open and extensible software application programming interfaces for geographic information systems and other mainstream technologies.

Consulting with the OGC specifications and standards is highly recommended for grantees interested in open, interoperable solutions; especially those involving publishing geospatial data and resources as a service. Many of the specifications, documents, and guidance provided here have been adopted as industry standard. Others are fairly new and not mature. Grantees are encouraged to comply with these consensual guidance and standards wherever relevant to specific projects and objectives.

To facilitate data discovery and sharing with other organizations, Web Map Service (WMS), Web Feature Service (WFS) and Geography Markup Language (GML) should be comply with OpenGIS interoperability specifications.

National Spatial Data Infrastructure (NSDI) (<http://www.fgdc.gov/nsdi/nsdi.html>)

The NSDI was created under Executive Order 12906 calling for the establishment of the NSDI defined as the technologies, policies, and people necessary to promote sharing of geospatial data throughout all levels of government, private and nonprofit sectors, and the academic community.

The NSDI clearinghouse is available to Federal, State, local, and Tribal contributors to register as clearinghouse nodes where metadata about geospatial data, services, and resources can be published and harvested for discovery by any user. FGDC manages NSDI and provides guidance and instruction for using and registering nodes on NSDI.

States are encouraged to utilize Statewide coordinating councils to develop and maintain strategic and business plans for efficient Statewide geospatial data infrastructures in support of the National Spatial Data Infrastructure. DHS is encouraging States to examine Statewide or large regional approaches to the production of certain data, particularly framework (base map) data and critical infrastructure data that are conducive to Statewide data maintenance. Adopting this approach will align with Presidential directive A-16 for the National Spatial Data Infrastructure, save money, and promote data integration for mutual aid response. Metadata of an organization's geographic data holdings is an important first step to participating in the NSDI. Metadata provides not only a way to inventory and preserve investments in costly geospatial data resources within an organization, but also is a means for its discovery and sharing with other organizations. Metadata standards recommended to comply include FGDC Content Standard for Digital Geospatial Metadata, Version 2 (CSDGM), FGDC-STD-001-1998 or when available the ISO Metadata Standard 19115 using draft ISO Technical Specification 19139; and Metadata Service Guidelines: Metadata must be posted and harvestable through the Geospatial One-Stop Portal at <http://www.GeoData.gov>.

Geospatial One Stop Portal (www.geodata.gov)

As a part of one of Office of Management and Budget's 24 Federal E-Gov initiatives (www.whitehouse.gov/omb/egov/), the Geospatial One Stop portal was established to promote

data sharing across Federal entities and is available to the public for use as a discovery portal. Geospatial One Stop portal (www.geodata.gov) is an interface to NSDI established under Executive Order 12906. The portal harvests geospatial resource metadata from nodes registered with NSDI and is a repository for all metadata published and accessible on NSDI. Users also have the option to publish metadata holdings directly to Geospatial One Stop enabling smaller organizations with the ability to share and collaborate on geospatial resources. Version 2 of the portal will be OGC standards enabled for OGC Web Map Service (WMS), Web Feature Service (WFS), and Catalog Service for the Web (CSW).

An important feature on Geospatial One Stop for grantees is the [geodata.gov](http://www.geodata.gov) Market Place. Here users can find information about planned acquisitions of geospatial resources and future projects or activities that may align with their own objectives. If grantees find no existing resources on Geospatial One Stop in either the metadata searches or in the Market Place, they are strongly encouraged to register their planned activities for geospatial data acquisition or future projects and activities so that others may prevent from redundant efforts.

The National Map (<http://nationalmap.gov/>)

The U.S. Geological Survey (USGS) holds responsibility for maintaining nationally consistent foundation data layers that will support the DHS GEA. These data layers include:

- High-resolution digital orthorectified imagery from aerial photographs or satellite imagery.
- High-resolution surface elevation data to derive contours and digital terrain models.
- Vector feature data for hydrography (linear and open water bodies), transportation (roads, railway, and waterways), manmade structures, and boundaries.
- Land Cover that classifies land surface types.
- Geographic names of physical and cultural features (to support U.S. Board of Geographic Names).

Through partnerships that include cooperative arrangements for exchange of data, standards development, database development, web mapping services and applications, training, and technology exchange, the USGS has established a network of National Geospatial Partnership Offices and State Liaison positions across the Nation (<http://nationalmap.usgs.gov/partnerships.html>).

Ramona GIS Inventory (<http://www.gisinventory.net>)

Ramona is a GIS inventory tool designed to work in concert with the Geospatial One Stop Portal. Ramona is produced by the National States' Geographic Information Council (NSGIC) as a tool for States and their partners. Its primary purpose is to track the status of GIS in US State and local government to aid the planning and building of Spatial Data Infrastructures.

U.S Army Corps of Engineers CADD/GIS Technology Center Spatial Data Standards (<http://tsc.wes.army.mil/products/TSSDS-TSFMS/tssds/html/>)

The Spatial Data Standard for Facilities, Infrastructure, and Environment (SDSFIE) have focused on the development of graphic and non-graphic standards for GIS implementations at Air Force, Army, Navy, and Marine Corps installations, U.S. Army Corps of Engineers Civil Works activities, and other Government organizations.

The SDSFIE provides a standardized grouping of geographically referenced (i.e., geospatial) features (i.e., real-world features or objects depicted graphically on a map at their real-world location (i.e., coordinates). Each geospatial feature has an "attached" attribute table containing pertinent data about the geospatial feature.

American National Standards Institute (ANSI) INCITS Technical Committee L1 (Geographic Information Systems (http://www.ncits.org/tc_home/l1.htm and http://www.ncits.org/stds_info.htm))

International Committee for Information Technology Standards (INCITS) is the primary U.S. focus of standardization in the field of Information and Communications Technologies (ICT), encompassing storage, processing, transfer, display, management, organization, and retrieval of information. The work of INCITS Technical Committee L1, consists of adopting, adapting or developing information technology standards for use with digital geographic data. INCITS L1 serves as ANSI's U.S. Technical Advisory Group to the International Organization for Standardization (ISO) on matters concerning digital geographic information.

United States National Grid (<http://www.fgdc.gov/standards/status/usng.html>)

The objective of this U.S. National Grid standard is to create a more interoperable environment for developing location-based services within the United States and to increase the interoperability of location service appliances with printed map products by establishing a nationally consistent grid reference system as the preferred grid for NSDI applications. The U.S. National Grid is based on universally defined coordinate and grid systems and can, therefore, be easily extended for use world-wide as a universal grid reference system.

There are a number of coordinate reference systems that can be used either in location service appliances or on printed maps for the purpose of establishing a location. Within automated location service appliances, the conversion of coordinates based on one well-defined reference system to coordinates based on another can be both automatic and transparent to the user. These devices can support multiple coordinate reference systems with little difficulty. However, it is not easy for humans to work in multiple reference systems and humans cannot convert between systems without the aid of location service appliances, calculators, or conversion tables (FGDCSTD-011-2001).